

NASA GODDARD SPACE FLIGHT CENTER

OFFICE OF **S**YSTEMS **S**AFETY AND **M**ISSION **A**SSURANCE

Strategic Implementation Plan  
1998





## OFFICE OF SYSTEMS SAFETY AND MISSION ASSURANCE

### Introduction

The OSSMA provides management and mission support in the Systems Safety and Mission Assurance (SSMA) disciplines at GSFC. In addition, the OSSMA provides a technical independent assessment function that helps to ensure mission success.

These activities support the Safety and Mission Assurance agreements between the Enterprises and Code Q, and fulfill the Center Director's responsibility of program oversight. This Strategic Implementation Plan describes the intended approach to fulfilling these roles. Presented through vision and mission statements, and goals with associated strategies, it describes how the OSSMA will meet the challenge of

providing SSMA support in today's environment.



As presented, the OSSMA strategic goals parallel and support the GSFC Strategic Implementation Plan, and are aligned with the Code Q Strategic Plan. Detailed implementation plans are contained in the 1998 OSSMA Annual Operating Agreement and its supporting documents, which serve as tools for the management of this organization.

The quest for safety and quality is recognized as being open-ended in nature. Historically, and theoretically in the spaceflight community, the more resources applied to SSMA support, the better the resulting product. Today's world, however, demands a more flexible approach in all aspects of spacecraft development and operation. Today's challenge is to tailor SSMA requirements with limitations of budget and schedule. This Plan describes how these challenges will be managed by the OSSMA.



### Changing Environment

In recent years, the NASA spaceflight community has seen a wide range of significant changes. These trends will continue to influence OSSMA strategies. The spectrum of mission styles has grown to include smaller satellites and Principal Investigator mode projects, as well as large international efforts like the Space Station. Project budgets are smaller, and timetables for completion are shorter. The increased use of new technologies and more complex systems inherently adds the potential for more risk. These forces have driven the spaceflight community to reexamine their approaches to every aspect of program implementation and operation.

The OSSMA is committed to a new paradigm focused on customer satisfaction and the development of processes that add significant value toward the achievement of mission success.

Partnering with customers as team members, support is provided in a cooperative setting with the goals of improving customer satisfaction and ensuring efficient and effective SSMA implementation. As team members, OSSMA personnel facilitate the achievement of project objectives. Rather than simply specifying SSMA requirements, and overseeing compliance, requirements are now developed and tailored in consultation with customers to meet specific program and mission objectives. The varied nature of each mission, considering criticality, cost, schedule, and operational life, defines a specific set of objectives that require a unique SSMA approach.

Tailoring of mission assurance requirements and continuous improvement are key aspects of the OSSMA Strategic Implementation Plan. SSMA products and services are customized to provide the most value in meeting program objectives and mission constraints. Continuous improvement ensures that the OSSMA will meet the increasing need for greater efficiency in the provision of SSMA products and services.



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More efficient processes can help offset the impact of constraints imposed by reduced mission budgets. The OSSMA leads a wide range of initiatives in process improvement. The utilization of risk management techniques is a new process that contributes to the assessment and mitigation of risks. Risk management provides a structured approach, which helps guide the deployment of resources, resulting in improved project resource utilization. OSSMA support processes are continually being revised to ensure that activities are providing the highest value possible. As a service to the Center, the OSSMA also leads the Center initiative to obtain ISO 9001 certification, which will enhance the implementation of all Center processes.

The OSSMA is on a mission to be a leading edge provider of SSMA support to GSFC and the NASA community. This Strategic Implementation Plan defines our envisioned path towards that goal, and is focused on customer satisfaction, mission success, and the development and implementation of effective products and services.

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*Charles S. Vanek*  
Director of

A handwritten signature in black ink, reading 'Wentworth O. Denoon', positioned above a horizontal line.

*Wentworth O. Denoon*  
Deputy Director

Office of Systems Safety and Mission Assurance  
Goddard Space Flight Center





### VISION

The OSSMA is a key element in ensuring mission success.

### MISSION

To develop and implement leading edge Systems Safety and Mission Assurance practices that provide efficient and effective support.

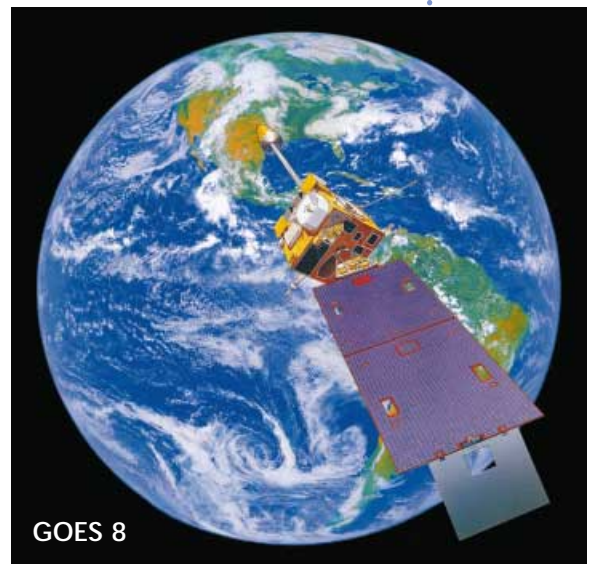
#### OSSMA STRATEGIC GOALS

##### Goal 1

Provide Systems Safety and Mission Assurance support to GSFC projects that is integrated throughout the project life cycle.

### STRATEGIES

- Provide expertise to the project at the earliest phases of the program to enhance up-front planning and effective implementation.
- Develop and provide tailored, project-specific support for the management of risk associated with program implementation.
- Define processes that effectively meet specific customer requirements and deliver services in an increasingly efficient manner.
- Perform contractor and product surveillance using insight and oversight modes as appropriate.
- Expand support to operational projects to provide better feedback on quality and design issues, and improve the reliability of current operations and future missions.





## OFFICE OF SYSTEMS SAFETY AND MISSION ASSURANCE

### **Goal 1 (Continued)**

- Develop and maintain an active, user-friendly corporate memory retention system which provides a Center repository for lessons learned information. Assist projects in effectively accessing and utilizing this system.



- Focus on customer requirements and customer satisfaction by:
  1. Participating as fully integrated members of the project team;
  2. Working with the project to develop tailored requirements which define an optimal SSMA program; and
  3. Effectively executing the SSMA disciplines as part of the systems engineering process.

### **Goal 2**

Manage and conduct an effective independent assessment process that provides timely information regarding issues and risks associated with GSFC projects.

### **STRATEGIES**

- Work with project management to develop and implement tailored review plans.
- Provide timely and concise delivery of independent assessment information to Center management via:
  1. Timely documentation and close-out of each review; and
  2. Timely production of the *RED BOOK*, which documents the SSMA implementation status of each project prior to launch.





### **Goal 3**

Provide leadership in SSMA technology and policy development for the Center and the Agency.

#### **STRATEGIES**

- Support technology development and infusion.
- Conduct assurance technology programs to characterize emerging developments and potential applications to enhance the future NASA implementation of SSMA.

### **Goal 4**

Enhance the Nation's technological and scientific literacy by sharing the information and knowledge that result from the performance of Goddard's mission.

#### **STRATEGIES**

- Support community outreach by sharing information and knowledge obtained from the performance of SSMA activities with the public.
- Provide workmanship training to elements of the aerospace community.

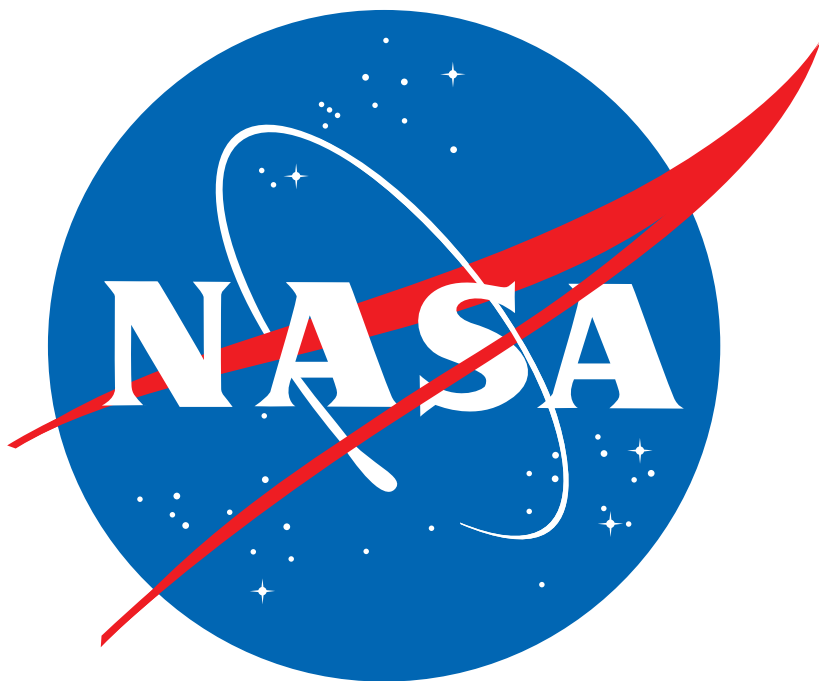
### **Goal 5**

Accomplish the OSSMA mission through a vital and effective workforce.

#### **STRATEGIES**

- Provide training, hardware, software, and LAN tools, to equip personnel to provide the best possible support.
- Ensure that employees understand the values, roles, and contributions of their work by conducting all-hands meetings with employees, Director of sessions with Offices, and having Office Heads report on accomplishments.





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